June-11:12 9:04:00 AM

Item ID: D212-6

D212-664-201

Accep

N900040100

Setup Start

Run

N.S.1

Revision ID:

Start Date:

Item Name: Crosstube Aft

11/06/2012

Start Qty: 1.00 Req'd Qty: 1.00 *1*

Cust Item ID:

Customer:

Reference:

Approvals: Process Pl

Required Date: 05/07/2012

Process Plan: NLゴ

Revision Nbr

Date: 12/06/11

Date:

Tooling:

Date:

Date:

Start

NR1

SPC (Y/N):

Stop *

'NR2*

Sequence ID/ Work Center ID

Operation Description

Set Up/ Run Hours Tool ID

Tool # Plan Code Accept Qty Reject Qty Reject Insp. Number Stamp

Draw Nbr

D212-664-241 Rev D (DEO)

DSI9563

В

100

DOCUMENT CONTROL

Memo

0.00

As roboly

MUJ 12/08/17

Document Control

Photocopy bluefile and create labels as per PPP D212-664-201

CHG005

110

100

110

Pick Kit Packaging

0.00

Packaging Packaging

Memo

0.00

Rm 12-7-30

Pto >

Dart	Aero	space	Ltd
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w/o: ₺	22.63	WORK ORDER C	HANGES			4	10
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval OC Inspector
						,	À
(a)			·				

Part No: 🔯	2-10/1-201	PAR.#:	Fault Category: <u>∠</u>	andin Gearle	costale NCR:	Yes (No D	QA: Date:	1403/29
------------	------------	--------	--------------------------	--------------	--------------	-----------	-----------	---------

Resolution: Acceptly Disposition: Acceptly QA: N/C Closed: 40 Date: 12/08/2

NCR: 2	-171C	V	VORK OR	DER NON-CONFORMANCE	(NCR)	J	1	
DATE	STEP	Description of NC Section A	Initial Chief Eng	Corrective Action Section B Action Description Chief Eng	Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
nlosts1	#	table has more crushing than allows por Dug. R.C. Process	DAS 12 89 12.00.17	Accatable fee Email From David 5 to E. Down: July 30th, 2012. See Attacky.	nla	045) 126/10 120/10	DAS 12 88 12-8-17	5AS 16 17(19/3)

Eric Downing

From:

David Shepherd <dshepherd@dartaero.com>

Sent: To: Monday, July 30, 2012 5:29 PM 'Eric Downing'; 'Alex Pharand'

Cc:

'Mike Petsche'; psmith@dartaero.com

Subject:

RE: D212-664-201 crushing

Eric,

This deviation is acceptable.

David

From: Eric Downing [mailto:edowning@dartaero.com]

Sent: July-30-12 2:12 PM

To: David Shepherd; Alex Pharand

Cc: 'Mike Petsche'; psmith@dartaero.com

Subject: D212-664-201 crushing

Me again David

I have a D212-664-201 cross tube with the crushing out of drawing tolerance.

As you can see in the attachment that **side A** has a crushing of **6.1%** at **9** passes and **side B** has a crushing of **7.1%** at **9** passes. They were both measured at about 16" from cuffs.

Is this acceptable?

Eric Downing
QC Corrdinator
Dart Aerospace LTD

Dart Aerospace Ltd W/O: -**WORK ORDER CHANGES Approval** DATE STEP PROCEDURE CHANGE Approval By Date Qty Chief Eng / Prod Mgr QC Inspector Part No: PAR #: ____ Fault Category: ___ NCR: Yes No DQA: __ __ , Date: _ Resolution: Disposition: _____QÂ: N/C Closed: ____ Date: WORK ORDER NON-CONFORMANCE (NCR) NCR: **Corrective Action** Section B **Description of NC** DATE STEP-Verification **Approval Approval** Section A Initial **Action Description** Sign & Section C Chief Eng QC Inspector Chief Eng Chief Eng Date 13,

Item ID: D212-664-201 Accept *N90004010 Setup Start Revision ID: Item Name: Crosstube Aft Start Date: 11/06/2012 Start Qty: 1.00 **Cust Item ID: Required Date:** 05/07/2012 Req'd Qty: 1.00 Customer: Reference: Run Approvals: Process Plan: Date: **Tooling:** Date: Stop SPC (Y/N): Date: Date: Seguence ID/ Operation Tool ID Tool # Plan Reject Set Up/ Accept Reject Insp. "Work Center ID Description Qty **Run Hours** Code Oty Number Stamp 0.00 Crosstubes *140* Crosstubes 0.00 Memo Crosstubes 1-Drill pilot holes in tube as per Dwg D212-664-241 using drill Jig DT8550, DT8551, drill table DT8577 and locate tower holes #8 as per QSI0010. 2-Ream hole to finish size in tube as per Dwg D212-664-241using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes. 3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-4-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241 150 Crosstubes Chemical Conversion 0.00 *150* HandFXtube 0.00 Memo Hand Finishing Crosstubes onversion Coat as within 24 hours of bending and dri

Dart	Aeros	pace	Ltd

	12-0-1									W: 15			
W/O:			WORK ORDER CHANGES										
DATE	STEP	PRO	OCEDURE CH	IANGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
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	R	esolution:	Disposit	ion:	_ QA	N/C CI	osed:		Date:				
NCR:			WORK OR	DER NON-CONFORMA	NCE	(NCF	R)						
DATE	STEP	Description of NC			Section B on Sign &			ation	Approval	Approval			
	O.L.	Section A	Initial Chief Eng	Action Description Chief Eng		Date			Chief Eng	QC Inspector			
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			-7										

June-11-12 9:04:00 AM

D212-664-201

Reg'd Oty: 1.00

Accept

Setup Start

Reject

Number

Revision ID: Item Name:

Item ID:

Crosstube Aft

Start Date: 11/06/2012 **Required Date:** 05/07/2012

Start Oty: 1.00

Cust Item ID:

Customer:

Tool ID

Reference:

Process Plan: Approvals:

Date:

Tooling:

Date:

Run

Date:

SPC (Y/N):

Date:

Tool#

Plan

Code

Stop

Reject

Qty

Accept

Qty

Insp.

Stamp

Sequence ID/ Work Center ID

160

160

Quality Control

Operation Description

Set Up/ **Run Hours**

170

OC

170

QC

Memo

Quality Control

180

Outsource process - NDT per QSI038 4.1

QC5- Inspect part completeness to step on W/O

0.00

180 Outsource2

Outsource process - NDT

Memo

0.00

Liquid Penetrant Inspection as per QSI 038

LPI as per ASTM 1417 Level 2

Attach copy of NDT results to work order

Dart Aero	space l	_td
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W/O:			WORK ORDER	CHANGES				
DATE	STEP		PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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		7						
Part No	•	PAF	R #: Fault Category:	NCR: Yes	No DQ	A:	Date: _	
	Resol	lution:	Disposition:	QA: N/C (Closed:		Date:	

NCR:		WORK ORDER NON-CONFORMANCE (NCR)										
		Description of NC		Corrective Action Section B		Verification	Approval	Approva				
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	QC Inspecto				
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June-11-12 9:04:00 AM

Item ID:

D212-664-201

Accept

N900040100

Setup Start

Revision ID:

Crosstube Aft Item Name:

Required Date: 05/07/2012

11/06/2012

Start Qty: 1.00 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals:

Start Date:

Process Plan:

Date:

Tooling:

Date:

Date:

Stop

Sequence ID/ **Work Center ID** Operation Description

SprayPaint

Set Up/ **Run Hours**

SPC (Y/N):

Tool ID

Tool # Plan Code

Accept Qty

Run

Reject Reject Qty

12 - 8-7

Number Stamp

210

210

SprayPaint

Spray Painting

Memo

Spray Painting per QSI005 4.2

0.00

0.00

1-Prime inside and outside crosstube as per OSI 005 4.2

Date:

2-Paint outside crosstube as per DEO D212-667-241 with White Imron as per

QSI 005 4.2

PRIME: 121746 Start Time: 1:15 Fininsh Time: 2:00

PAINT: 122562 Start Time: 6:30 Finish Time: 7:15

220

QC14- Inspect Spray Paint

0.00

QC

Memo

0.00

Quality Control

Then, Wrap in plastic bag to protect from scratches

- ai (70	. oopuo	LIG									•	
W/O:			V	VORK O	RDER CHAN	GES			······································	•	-	
DATE	STEP	PRO	CEDURE CI	HANGE			Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
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		PAR #:	Fault Category:									
	Resolution:			Disposition:			N/C CI	sed:		Date:		
NCR:		V	VORK OR	DER NO	N-CONFORM	IANCE	(NCR)				
DATE	STEP	Description of NC Section A	Initial Chief Eng		ive Action Section Description Chief Eng	ection B	Sign & Date	Verific Secti	cation on C	Approval Chief Eng	Approval QC inspector	
						F-3			Ÿ			
			,									

Work Order ID 85563

June-11-12 9:04:00 AM

Item ID:

D212-664-201

Accept

N900040100

Setup Start

Revision ID:

Item Name: Crosstube Aft

Start Date: Required Date: 05/07/2012

11/06/2012

Start Otv: 1.00 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Process Plan: Approvals:

Date:

Tooling:

0.00

0.00

Date:

Run

QC:

Date:

SPC (Y/N):

Date:

Tool #

Stop

Sequence ID/ Work Center ID 230

Operation Description

Set Up/ **Run Hours** Tool ID

Plan Code Accept **Qty**

Qty

Reject Reject Number Stamp

Insp.

230

Crosstubes

Memo

12 - 8-11

Crosstubes Crosstubes

1-Abrade mating surfaces of support and crosstube with 400 grit sandpaper,

clean the area with 4105S wash 'n' wipe

2-Install supports with Proseal 890 per DSI9563 and QSI 015 A/R Proseal 890 Batch: 2244

3-Install clamps as per Dwg D212-664-241. Torque clamps to 80-100 in lb.

240

QC5- Inspect part completeness to step on W/O

Quality Control

250

750

Packaging

Memo

Pick Kit

Memo

0.00

0.00

Packaging

										
W/O:			WC	ORK ORDER CHANG	ES				-	
DATE	STEP	PRO	CEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
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								,		
Part No	Part No: PAR #:		Fault Category:			s No DQ	A :	Date:		
Resolution:			Dispositio	n:	QA: N/C	Closed:		Date: _		
NCR:		V	ORK ORD	ER NON-CONFORMA	NCE (NC	R)				
5.475		Description of NC	Corrective Action		on B	Verific	ation	Approval	Approval	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign Dat	& Secti		Chief Eng	QC Inspector	
									·	
		·								
						ŀ				

Packaging

Packaging

Memo

Identify and pack for shipping as per PPP D212-664-201

280 *280*

Memo

Quality Control

QC21- Final Inspection - Work Order Release

0.00

0.00

0.00

Insp.

Stamp

MCJ 12/08/17

Page 8

	·oopaoc								•
W/O:			WC	RK ORDER CHANG	ES			•	
DATE	STEP	PR	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
		•							
Part No		PAR #:							
	Re	solution:						Date: _	
NCR:		,	WORK ORDI	ER NON-CONFORMA	NCE (NC	₹)			
DATE	OTED	Description of NC		Corrective Action Section		Verific	ation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign of Date	& Section		Chief Eng	QC Inspector
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Picklist Print

June-11-12 9:04:05 AM

Work Order ID: 85563

85563

Parent Item:

D212-664-201

D212-664-201

Parent Item Name: Crosstube Aft

Start Date: 11/06/2012

Required Date: 05/07/2012

Page 1

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:E04.02.16ReformatK/DS

IPP Rev:F 06-03-29

Remove Coments on Pick List JLM

IPP Rev:G 07-04-30

As per Rev C JLM

1	IPP Rev:H 08-05-	-22 up date Qty	of rub	ber cushion D	D verified by:	EC							
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per	r Kit	Total Qty	Qty Issued	Date Status Issued
D212-664- 201TRNRevC		Manufactured	No			110	Each	0.0000	1		1		
*D212-664 Crosstube Turning Detail	4-201TF	RNRevC	` *	B86	221				**	-	<u></u>	Rm	12-7-30
D3595-063-530		Manufactured	No			230	Each	177.0000	2		14		
D3595-06	63-530								**			48	12-8-9
				Location		Loc (<u>Qty</u>	Loc Code					
	•			LG			138			_		_	
					79932		58						
				(82656		80				<u>(4) </u>	_	
				MAT052			39						
					63407		6						
					67185		6			_		_	
					70067		18			_			
					72745		2					_	
					75783		7					_	
D2940-1		Manufactured	No			230	Each	35.0000	2		2		
D2940-1	k								**			Ag	12-8-9

Support

Location Loc Qty Loc Code LG052 35 79118 15 20

Duit Ac	ospace	Liu								•
W/O:			WC	RK ORDER CHANG	GES					
DATE STEP			ROCEDURE CHANGE			/	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
									,	
Part No	•	PAR #:	Fault Cate	jory:	NCR: Y	es N	lo DQ	A :	_ Date: _	
,	Re	esolution:	Disposition	n: <u></u>	QA: N/	C Clos	sed:		Date: _	
NCR:			WORK ORDE	R NON-CONFORM	ANCE (N	CR)				
D.4.T.F.	0.750	Description of NC	Description of NC Co		rrective Action Section B			ation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng		gn & ate	Secti		Chief Eng	QC Inspector
		•								
					:					
		•								

Work Order ID: 85563

Parent Item:

D212-664-201

Parent Item Name: Crosstube Aft

85563 *D212-664-201*

Start Date: 11/06/2012

Required Date: 05/07/2012

Start Qty: 1.00

Required Qty: 1.00

MS21920-28

Purchased

Manufactured

Purchased

No

230

Each

63.0000

**

(4)

12-8-9

Clamp(per MIL-DTL-8783C)

	122204			
Location	<u>n</u>	<u>Lo</u>	c Qty	Loc Code
FG			5	
	105884		5	
LG050			46	
	116839		2	
	118713		4	
	120054		2	
	121067		38	
LG051			12	
	121440		12	
		250	Each	29.0000

**

No

No

Location Loc Qty ST042 29 78933 2 17 81881 10 83582 250 Each

624.0000

Loc Code

Loc Code

Location	Loc Qty
ST300	624
117677	25
118384	3
118927	48
119075	348
120308	200

	6	
_		

Dail AC	ospaci	5 LIQ							•
W/O:			WC	RK ORDER CHANGES	3			•	
DATE	STEP	PRO	OCEDURE CHAI	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
		•							
								:	
Part No	·	PAR #:	Fault Cate	gory:	NCR: Yes	No DQA:		Date:	
		esolution:							
NCR:			WORK ORDE	R NON-CONFORMAN	CE (NCR)	-		
DATE	STEP	Description of NC		Corrective Action Section		Verifica	tion	Approval	Approval
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		·							
						<u> </u>			

June-11-12 9:04:05 AM

Work Order ID: 85563

Parent Item:

AN960JD616

D212-664-201

Parent Item Name: Crosstube Aft

85563 *D212-664-201*

Start Date: 11/06/2012

Required Date: 05/07/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0663J Purchased

AN6-40A

Purchased

No

No

250

Loc Qty

250

0.0000 Each

Each 148.0000

Loc Code

77.0000

Loc Code

	S	ST342		148
		120187		66
		120833		4
		121349		3
		121584		25
		121827		50
Purchased	No		250	Each

Location

Location	Loc Oty
ST342	77
120423	47
121825	30

	. Johade									•
W/O:	, A-	**************************************	W	ORK ORDER CH	HANGES					
DATE	STEP	PRO	OCEDURE CH	ANGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No		PAR #:	Fault Cate	egory:	NC	R: Yes	No DQ	A:	Date: _	
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NCR:			WORK ORD	ER NON-CONF	ORMANCE	(NCR				
DATE	STEP	Description of NC Section A	Initial Chief Eng	Corrective Action Action Description Chief Eng	Section B ption	Sign &	Verific Section		Approval Chief Eng	Approval QC Inspector
		• .								

DART AEROSPACE LTD	Work Order:	85563
Description: Crosstube High Aft (205/212)	Part Number:	D212-664-201
Inspection Dwg: D212-664-241 Rev: D		Page 1 of 1

Min

24.17

Max

24.43

Required Dimension Height

	1/2 Span	53.59	53.85	
	Angle	49	52	
	Total Span	107.18	107.70	
343 - 5.563			.356 - 5.534	
6.1%			(),4 = 2 / 2 / (
6.10		!	7-17.	
	1	6	7 015	T
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			Con	nments			
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Oci M	· z	6	Passes		(

QC15 Inspection	CA 20 1 16
Date	3 120371

Rev	Date	Change	Revised by	Approved
Α	07.02.06	New Issue	KJ/JM	
В	07.05.08	Dimensions updated per Dwg rev. C	KJ/JLM . A	
С	10.04.01	Dwg Rev updated	KJ KJ	1

	Dart	Aer	ospac	ce Ltd	
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W/O:		WORK ORDER:CHANGE					
DATE	STEP	* PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
	,						
Part No	•	PAR #: Fault Category:	NCR: Yes	No DQ	A:	Date:	

Resolution: _____ Disposition: _____ QA: N/C Closed: ____ Date: ___

NCR:			WORK ORDER NON-CONFORMANCE (NCR)									
		Description of NC		Corrective Action Section B	3	Verification	Annuaval	A				
DATE STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approval QC Inspecto					
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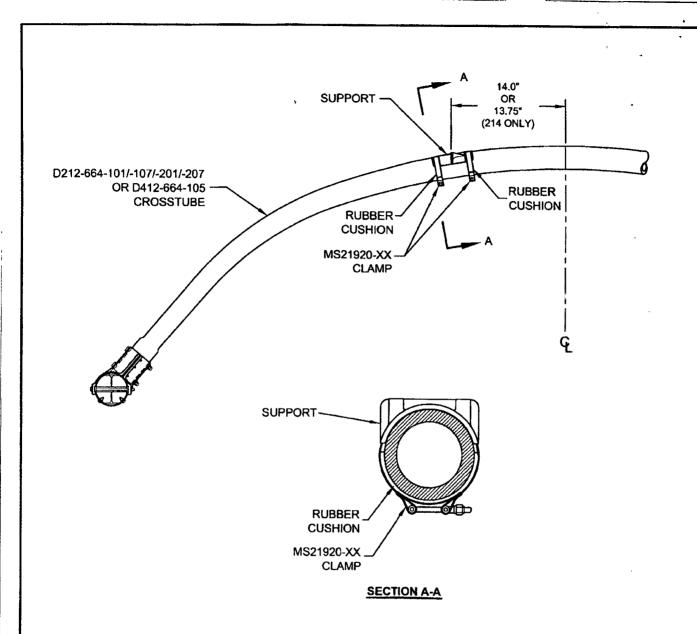


FIGURE 1: SUPPORT INSTALLATION

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-0-01

BY: D. SHEPHERD (DE # 02)

DATE: 11.07.20
CERT. NO.: SH01-9
ISSUE NO.: 3

DESIGN	qo	DART AEROSPACE LTD					
DRAWN	P	HAWKESBURY, ONTARIO, CANADA					
CHECKED	ASS	DRAWING NO. RE	V. B				
MFG. APPR.	.N/A	DSI 9563 SHEET 2	OF 2				
APPROVED	WP,	TITLE S	CALE				
DE APPR.	-#	SUPPORT INSTALLATION CHANGE	NTS				
DATE 11.0	7.15	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND COMFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHO MOST ARE REPOSPACE LTD. WITHER PERSONS OF ROM DATE AREOSPACE LTD.					

W/O:			WC	ES				
DATE	STEP	PRO	PROCEDURE CHANGE				Approval Chief Eng / Prod Mgr	Approval QC Inspector
								
Part No	•	PAR #:	Fault Cate	gory:	NCR: Yes	lo DQA:	Date: _	
		esolution:						
NCR:			WORK ORD	ER NON-CONFORMA	NCE (NCR)			
DATE	STEP	Description of NC Corrective Action Section				Verification		Approval
	JILI	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
• •								

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevE

Item	Qty -241	Qty -241B	Part Number	Description
1	Х		D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
2		Х	D212-664-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)
3	1	1	D6006-129	CROSSTUBE
4	2	2	D2940-1	SUPPORT
_ 5	4	4	D3595-063-530	RUBBER CUSHION
6	4	4	MS21920-28	CLAMP (OR MS21920-30)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

1) MATERIAL. MANUFACTURED FROM D6006-129 FINISHED LENGTH = 124.362±0 020

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4 1 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4 2

PAINT OUTSIDE PER DART QSI 005 4.2 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED.

5) BREAK SHARP EDGES: 0.005 TO 0 010 MAX.

IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS

7) WEIGHT: D212-664-241 = 44.2 lbs (PER IIN-D212-664) D212-664-241B = 44 2 lbs (PER IIN-D212-664)

PART IS SYMMETRIC ABOUT CENTERLINE.

9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD BE SMOOTH.

10) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.

11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038

12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 0.15. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.

13) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE

14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005' MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING

SHOP COPY RETURN TO **ENGINEERING** UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE WORK ORDER NO_05563_MLT 12/06/11

60 411-614 11.07.28 UNDER REVIEW

DEO ATTACHED

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CHECKED	9	DRAWING NO.	REV. D			
MFG. APPR.	77	D212-664-241 SHEE	T 1 OF 4			
APPROVED	10	TITLE	SCALE			
DE APPR.		CROSSTUBE ASS'Y (205/212 HI AFT)	NTS			
DATE 09.0	9.30	COPYRIGHT © 2000 BY DART AEROSPACE LTD PHS DOCUMENT IS PRIVATE AND COMPONENTAL AND IS SUMPLED ON THE POPPERS CONDITION THAT IT IS NOT TO BE USED THE ART PROPOSE OF COMPONENCE AND TO PARK OTHER PERSON WITHOUT				

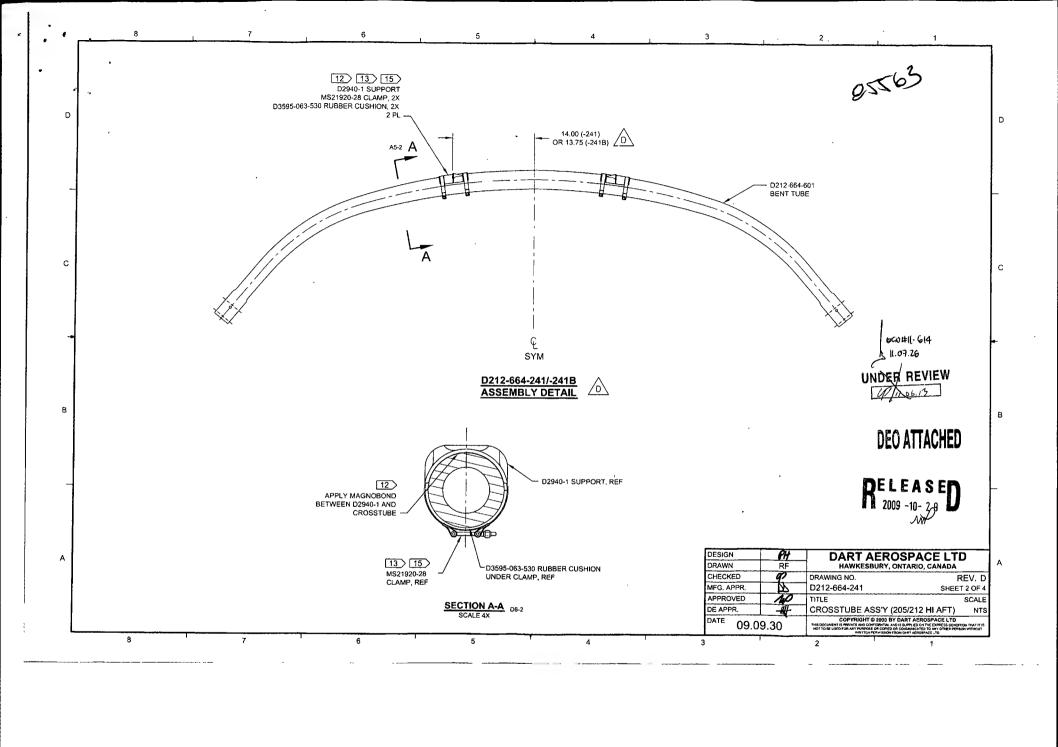
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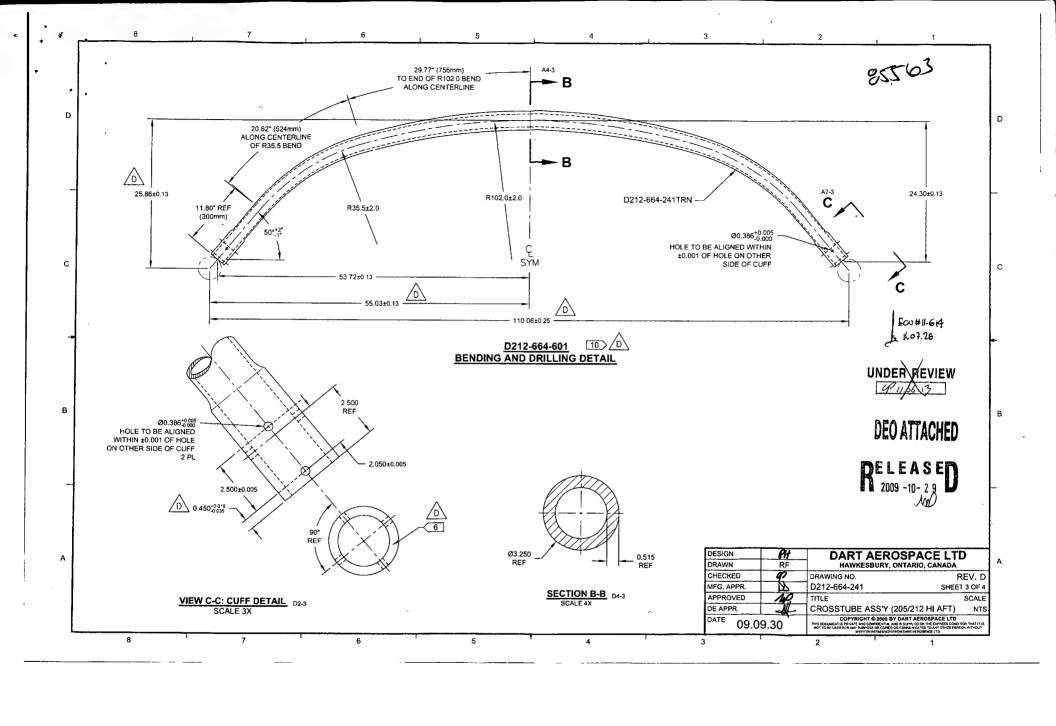
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DATE	STEP	Description of NC Section A			Section B on Sign & Date		Verification Section C		Approval Chief Eng	Approval QC inspector	
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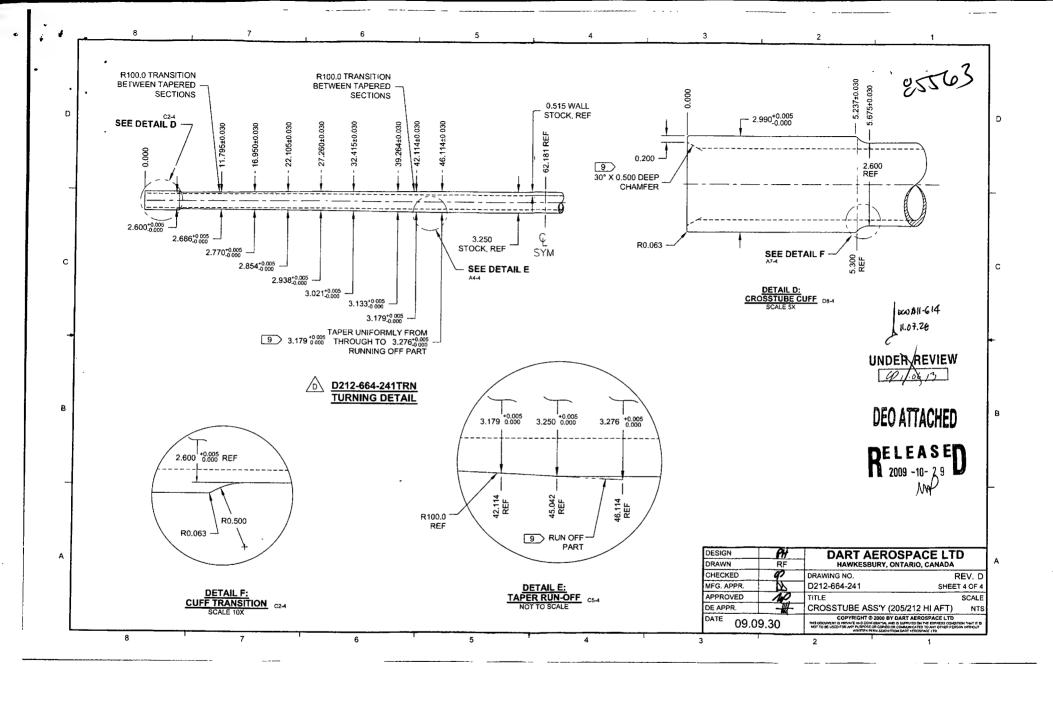


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	DRÁWING NO.	TITLE				ROSPACE LTD	D.E.O. N	O.	SHEE	T NO.	SCALE
<u>-</u>	D212-664-241	CROSSTUBE	ASSY (205/212	HI AFT)	ENGINE	ERING ORDER	D212-6	64-241-D-1	SHEET	1 OF,2	, NTS
	DRAWN K	, (CHECKED /	N	MFG. APPR.	Œ.	APPROVED	wP	DE APPR.	-11/4	
	DATE 11.04	.07	DATE	04.11	DATE	11.04.12	DATE	11/04/12	DATE	1.04.12	

PURPOSE:

ADD AN INSPECTION WINDOW TO UNDERSIDE OF CROSSTUBE.

CHANGE:

NOTES 2 OF SHEET 1 IS AMENDED AS FOLLOWS:

18:

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2

MASK UNDERSIDE OF CROSSTUBE AS SHOWN (HATCHED AREA) AND

PAINT OUTSIDE PER DART QSI 005 4.2 REMOVE MASKING AND APPLY CLEAR COAT

WAS:

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2

PAINT OUTSIDE PER DART QSI 005 4.2

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UNDER REVIEW

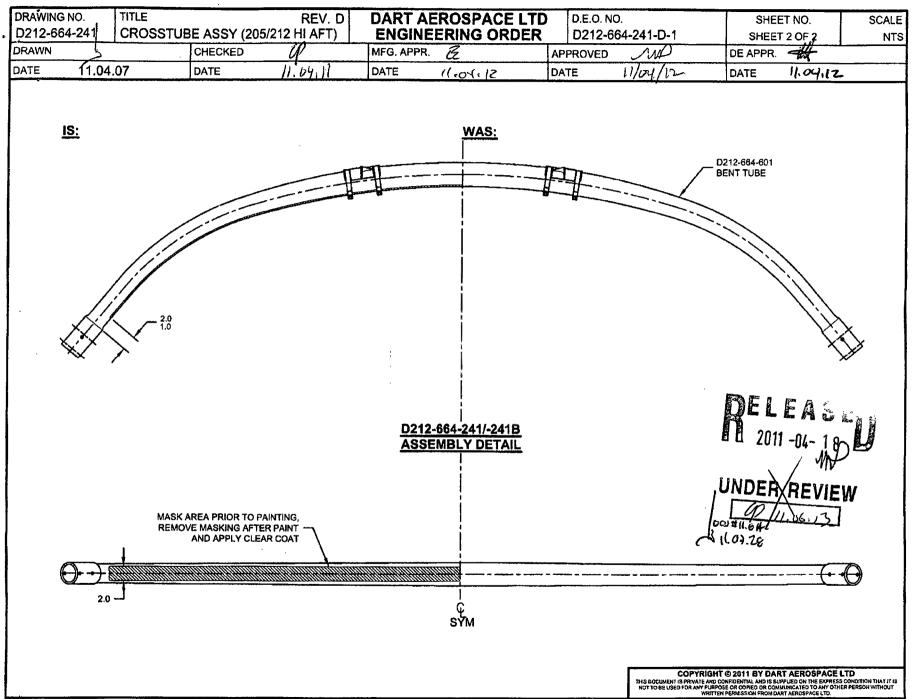
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W/O:			W	ORK ORDER CHANG	GES			•	•
DATE	STEP	PRO	CEDURE CHANGE		Ву	Dat	te Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	:	PAR #:	Fault Cate	egory:	NCR: Ye	s No	DQA:	Date: _	****
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DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng		n &	Section C	Chief Eng	QC Inspector
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NCA:											
		Description of NC	Description of NC Corrective Action Section B								
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector			
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W/O:			WORK ORDER	CHANGES			•	^
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DRAWING NO	. TITLE	REV. D	DART AE	ROSPACE LT	D.E.O. NO.	SHEET NO.	SCALE
.D212-664-2	41 CROSST	UBE ASS'Y (205/212 HI AFT)	ENGINE	ERING ORDE	R D212-664-241-D-2	SHEET 1 OF 1	NTS
DRAWN	P	CHECKED AS	MFG. APPR.	/%	APPROVED (A)	DE APPR.	
DATE	11.07.15	DATE 11.07.20	DATE	17.07.21	DATE 11/07/21	DATE 11-07.21	

PURPOSE:

REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

ítem	Qty -241	Qty -241B	Part Number	Description			
7	A/R	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2			

WAS:

			<u></u>	
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023
ĺ	į	}		ADHESIVE (TEXTRON/BELL SPEC. 299-947-100,
				TYPE II, CLASS 2 ADHESIVE)

NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 12) TO INSTALL D2940-1 SUPPORT: ABRADE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

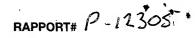
WAS:

- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.



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WINGTHEM PERMISSION FROM DART AEROSPACE LTD.

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entendu que toutes les descriptions	ons, les observations et les expressions d'opinions faite.	es par Acuren reflètent les opinions ou les observations de l'er	ne s'étendent au-delà de l'exécution des services demandés. Il es atreprise fondées sur l'information et les hypothèses fournies par le
propriétaire/opérateur, et elles ne opérateur, et le propriétaire/opér	e constituent pas des déclarations ou des garanties ou rateur conserve la responsabilité entière des décisions	ne peuvent être interprétées comme constituant. Le groupe prises en matière d'ingénierie, de fabrication, de réparation	Acuren Inc. N'assume aucune des responsabilités du propriétaire. et d'usage à partir de l'information ou des données fournies pa
Acuren en rapport avec les servi	ces décrits dans les présentes ne peuvent excéder le c	coût des services rendus.	£\$\dot\$
Dans l'execution des services, le opérant dans la même localité ou	Groupe Acuren inc. Applique le degré de diligence, le s y dans une localité similaire. Aucune autre garantie, imp	soin et la compétence normalement exercés dans des circons plicite ou explicite, n'est faite ou voulue par le Groupe Acurer	tances semblables par d'autres fournisseurs de ce type de service: n Inc.
SIGNATURES			
REPRÉSENTANT CLIENT	Andy Sheldon	Alheldon	FTJ#:
TECHNICIEN (SIGNATURE):		Signature	Rapport
Noм (Moulié):	Philippe Barré		RÉVISÉ PAR: Nom Initiales
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DART AEROSPACE LTD.

Page 22 of 25

5.0 PARTS LIST

REFERENCE ONLY

5.1 HIGH GEAR CROSSTUBES

item	-101	-201	-203	Part Number	Description
	х			D212-664-101	CROSSTUBE INSTALLATION, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH FWD
		х		D212-664-201	CROSSTUBE INSTALLATION, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH AFT
-			х	D412-664-203	CROSSTUBE INSTALLATION, 412 HIGH AFT
1	1			D212-664-141	CROSSTUBE ASSEMBLY, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH FWD
2		1		D212-664-241	CROSSTUBE ASSEMBLY, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH AFT
3			1	D412-664-243	CROSSTUBE ASSEMBLY, 412 HIGH AFT
					SUPPORT
10	2			* D2893-1	RUBBER CUSHION
11	4			* D3595-063-450	CLAMP (OR MS21042-26)
12	4			* MS21920-25 AN6-35A	BOLT
13	4			AN6-36A	BOLT
14	6	 		M\$21042L6	NUT (OR MS21042-6)
15 16	18			AN960JD616	WASHER
					Louisson
20		2		* D2940-1	SUPPORT
21		4		* D3595-063-530	RUBBER CUSHION CLAMP (OR MS21042-30)
22		_4		-*-MS21920-28	BOLT
23		14		AN6-40A4 -AN6-41A	BOLT
24		2		-MS21042L6	NUT (OR MS21042-6)
25 26		1 18		AN960JD616	WASHER
		t			
30			1	* D2896-1	SUPPORT
32			2	* D3595-063-570	RUBBER CUSHION
33			4	* MS21920-28	CLAMP
34			2	* MS21920-30	CLAMP (OR MS21042-32)
35			4	AN6-40A	BOLT
36			2	AN6-41A	BOLT
37			6	MS21042L6	NUT (OR MS21042-6)
38			18	AN960JD616	WASHER
39			2	* D3189-1	CHAFING SHIELD
				D2420.4	PLACARD
50	1 1	1 1		-D3428-1	FLACARD

^{*}REFERENCE ONLY. PARTS ARE INCLUDED IN D212-664-141/-241 OR D412-664-243 ASSEMBLIES ABOVE NOTE: KITS INCLUDE EXTRA HARDWARE FOR COMPATIBILITY WITH BOTH DART AND BELL/AAI SKIDTUBES.

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Revision: G

Date: 11.08.30

